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STRATIFIED MINING SYSTEMS

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Annotation: The article is about layered deposits, layered deposit mining systems, rock mechanical and technological properties, ore body stagnation conditions, factors affecting the mining process and their elimination, description of some layered deposit mining systems, current processes of layered deposits are discussed.

Keywords: Mineral, mining system, stratified mine, stratum thickness, height, cross-sectional surface, fracture, strength, stability property, long bench mining, low-level streaks.

Mining systems of layered mines means the order of preparation and excavation of the excavations interconnected by time and space in the territory of the mining area. The following requirements are imposed on any mining system: ensuring the safety of mining operations; excavation works to be efficient; preservation of the environment and underground resources that support people. In order to ensure the safe progress of work, it is necessary to have two exits from the excavation site.Also, the front of the cabin should be reliably reinforced, and the work areas should be continuously ventilated. it is also necessary to carry out measures aimed at suppressing coal dust, mine impact and sudden eruptions of coal and gas. Excavation systems should be able to create favorable conditions for complex mechanization of production processes, concentration of excavation work (increasing excavation load) and reliability based on solving the following problems: 'to lose; ensuring the autonomy of excavation sites in terms of transportation and ventilation conditions; in order to ensure stable dimensions of the length of the mine by using

effective methods of storage of mine solders and creating conditions for the reliable operation of mining complexes and aggregates with high productivity; reducing gas

exposure to work performed in excavation lavas on the basis of degassing measures at

the location where gas is released; predicting geological disturbances that will cause lava to stop in unforeseen cases. Many geological and technical factors affect the selection of the drilling system. We will consider the main ones. The thickness of the layer affects the technology of excavation works and the transfer of mining solders. For example, thin and medium-thick rich layers, as well as a part of a very inclined layering, are mined along the

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entire thickness, and thick bedding layers are mined separately into layers. The angle of deviation of the layer affects the transport of coal along the pit: when the angle of

deviation is 20–25°, coal is transported by mechanical means; in the conditions of a large angle of deviation, the coal falls into the transport line under the influence of its own

gravity. . Disintegration, or gentle bending of strata atrophy rocks, is decisive in choosing a mine pressure control method. This feature of the rock also affects the means of

mechanization of excavation works, and the stagnation feature of the rock determines the need to transfer mining-preparation clays between layers or between mining rocks.The deposit lies in different geological conditions, and the variety of excavation technologies used in the pits requires the excavation systems to have different options. Because of this, there is a need to classify mining systems. There is such a common feature in the

classification of mining systems that it belongs to all options and is represented by the sequence of mine preparation and mining operations. This sign is the main sign and

defines the types of excavation systems (excavation in a row, digging in long columns,

digging in a mixed method, chamber, and chamber-column excavation systems). In the classification of excavation systems, in addition to the main sign indicated above, the length of the excavation pit (long or short), the excavation of the layer with or without

dividing it into layers, the length, descent, elevation, and diagonal distance of the layer in relation to the lying elements of the layer according to the excavation area, and auxiliary characters such as push-on are also taken into account. In the excavation system with

long shafts, mine preparation and excavation work are carried out independently of each

other within the boundaries of the excavation area. Before the start of excavation work, all the preparatory work for the excavation column should be completed.The use of column

excavation systems does not depend on how the mine site is prepared for excavation; that is, the mine site can be prepared in any way. will continue. In this case, the space can be moved in different directions: longitudinally, downwardly, upwardly, and diagonally. Several variants of the bench excavation system are used in the layer preparation method. If the

floor does not depend on the excavation areas, then there is one pit (the floor) that is dug in the opposite direction on its wing. In cases where the floor depends on the excavation area, there are two, and in some cases, three, spaces in its territory, as in the method of

floor preparation. in which the excavation of reserves in the excavation area is carried out by means of an intermediate bremsberg, and the excavation spread can be straight or

reverse. When preparing floors, excavation pits are located in the longitudinal direction.

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When preparing the mine area according to the horizons, the quarry usually moves in the direction of descent or ascent. In the preparation of floors, excavation pits are located in a

longitudinal direction. During the preparation of the mine area according to the horizons,

the pit is usually moved (pushed) along the descent or ascent. There are two to four

excavation pits in the horizon area. There are several variants of long-table mining systems that are used in the mining of layered deposits located in different

mine-geological conditions. Below are some examples of the widely used options of this system in mining practice.

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